detecting occurrences of a ser of events within a given time prior to and during the service change time window, each occurrence of an event being associated with a time at which the event occurred; and

computing a probability distribution fôr the set of events, which probability distribution determines for each event in the set the probability that the detected event caused the service change, the probability distribution being based at least in part on relations between the time of each event occurrence and the service change window.

63. The computer readable media comprising program code of claim 62 that, when executed by a programmable microprocessor, causes the programmable microprocessor to execute a method for analyzing potential cause of a service change, wherein computing the probability distribution for the set of event comprises computing the probability distribution using a first weighting function which is the product of two or more second weighting functions.

64. The computer readable media comprising program code of claim 63 that, when executed by a programmable microprocessor, causes the programmable microprocessor to execute a method for analyzing potential cause of a service change, wherein the two or more second functions are selected from the group consisting of:

a time weighting function which decreases the probability of a given event as the cause of the service change with the distance between the given event time and the service change time window;

a false occurrence weighting function which decreases the probability of a given event as the cause of the service change for instances in which events of the same type as the given event occurred outside the service change time window;

a positive occurrence weighting function which increases the probability of a given event as the cause of the service change based on instances stored in a historical database in which events of the same type as the given event occurred within a prior service change time window; and

a historical weighting function which increases the probability of a given event as the cause of the service change based on instances in the historical database in which events of the same type as the given event were identified as having caused a prior service outage.

65. The computer readable media comprising program code of claim 62 that, when executed by a programmable microprocessor, causes the programmable microprocessor to execute a method for analyzing potential cause of a service change, the method comprising monitoring service quality, an wherein determining the service change time window comprises determining a service failure time window based upon a change in monitored service quality and narrowing the service failure time window to the service change time window based upon the service usage amount measured during the service failure time window.

66. The computer readable media comprising program code of claim 62 that, when executed by a programmable microprocessor, causes the programmable microprocessor to execute a method for analyzing potential cause of a service change, the method comprising computing the probability distribution such that the total of all probabilities in the distribution is 1.

67. The computer readable media comprising program code of claim 62 that, when executed by a programmable microprocessor, causes the programmable microprocessor to execute a method for analyzing potential cause of a service change, wherein the service

comprises service over a communication network and wherein the detected events comprise network events.

68. The computer readable media comprising program code of claim 62 that, when executed by a programmable microprocessor, causes the programmable microprocessor to execute a method for analyzing potential cause of a service change, wherein the service comprises service provided by an application program and wherein the detected events comprise application program events.

69. The computer readable media comprising program code of claim 62 that, when executed by a programmable microprocessor, causes the programmable microprocessor to execute a method for analyzing potential cause of a service change, wherein the service change is a service outage, comprising determining the service change time window as a change in service from the first working state to the second, non-working state.

70. Computer readable media comprising program code that, when executed by a programmable microprocessor, causes the programmable microprocessor to execute a method for quantifying the effect of an outage in a service, the method comprising:

measuring usage amount of the service during a period of the service outage and a second period following the service outage;

comparing the measured usage amounts to normal usage amounts measured under similar service conditions for a similar period of time where no service outage occurs; and

determining a level of loss of service due to the service outage based on the comparison.

71. The computer readable media of claim 70 comprising program code that, when executed by a programmable microprocessor, causes the programmable microprocessor to

execute a method for quantifying the effect of an outage in a service, the method comprising defining the second period as the shorter of a time period in which measured service usage amounts return to within a given range of normal usage amounts and a predefined maximum time period.

72. The computer readable media of claim 70 comprising program code that, when executed by a programmable microprocessor, causes the programmable microprocessor to execute a method for quantifying the effect of an outage in a service, wherein measuring service usage amounts comprises measuring service usage amounts in terms of units of service usage.

73. The computer readable media of claim 72 comprising program code that, when executed by a programmable microprocessor, causes the programmable microprocessor to execute a method for quantifying the effect of an outage in a service, wherein the service is a communications service conveying a plurality of messages, comprising measuring service usage amounts in terms of number of messages conveyed by the system.

74. The computer readable media of claim 72 comprising program code that, when executed by a programmable microprocessor, causes the programmable microprocessor to execute a method for quantifying the effect of an outage in a service, wherein the service is a network server providing data items in response to requests therefor, comprising measuring service usage amounts in terms of number of requests received or data items provided by a server on the network.

75. The computer readable media of claim 70 comprising program code that, when executed by a programmable microprocessor, causes the programmable microprocessor to execute a method for quantifying the effect of an outage in a service, wherein determining the level of service loss comprises determining that substantially no loss of service occurred due to